**IT Applications Unit 3, AOS 2, Organisations and Data Management**

Developing a RDMS, p 113-119

**In creating the database the following is carried out:**

* Creating the tables and relationships
* Setting up the queries
* Input forms
* Creating macros

**Testing the solution, p 115**

1. **Why is testing carried out?**

Testing is a necessary step in problem solving. Testing the solution is done to ensure that all features and functions work correctly and that the information produced is free of errors.

1. **Distinguish between informal and formal testing**

Informal testing occurs during the development phases. As software developers create a solution, they are constantly testing to see if the solution works according to expectations.

Formal testing involves testing the overall solution after it has been completed to see if it solves the problem. The type of testing is formalised with comprehensive documentation of each test and each test outcome.

1. **Formal testing:**
   1. **Bench Test**
      1. **What does a bench test entail?**

A bench test forms part of the formal testing process in which sample data is used to determine how the solution works with a range of data.

* 1. **Describe User Acceptance Testing**

User acceptance testing ensures that the solution meets the actual needs of the intended users. This process involves asking users to follow a series of steps to complete a task in the solution or interrupting the information contained in the output, then providing feedback to the developers.

1. **Testing validation**
   1. **Testing should test the boundaries of the validation rule. What does this mean?**

It is important when testing to choose data that tests the boundaries of the validation rule as well as the data type. A simple rule of thumb is to test a value before the value itself and the one greater than the value in the validation rule.

1. **Testing the query**

Queries need to be tested to ensure that they work properly. Once the test data set is created, the records should be manually checked for data that meets the criteria specified by the query. The test data must be chosen carefully to ensure the optimum result is reached. It should include data that should be returned, rejected for failing to meet the first criterion but meeting the second criterion, rejected for failing to meet the second criterion but meeting the first criterion and data that should be rejected for failing to meet either criterion.

1. **Testing formulas**

Regardless of the location of formulas, each one needs to be tested. Choosing appropriate test data for which it is easy to determine if the final result is accurate or not.

1. **During which stage of the PSM does testing take place?**

Development stage

1. **Why is testing performed during this stage?**

Constantly testing to see if solution behaves according to expectations